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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/618,965	07/19/2000	Robert S. French	003048.P010	2144

23363 7590 04/02/2004

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EXAMINER

LE, DIEU MINH T

ART UNIT PAPER NUMBER

2114

DATE MAILED: 04/02/2004

9

Please find below and/or attached an Office communication concerning this application or proceeding.

2

Office Action Summary

Application No.

09/618,965

Applicant(s)

FRENCH ET AL.

Examiner

Dieu-Minh Le

Art Unit

2114

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-84 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-84 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is in response to the amendment filed December 29, 2003 in application 09/618,965.
2. Claims 1-84 are again presented for examination.
3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 1-84 are rejected under 35 U.S.C. § 103(a) as being unpatentable You (US Patent 6,158,045) in view of Cardoza et al. (US Patent 5,630,049 hereafter referred to as Cardoza).

This rejection is being applied for the same reasons set forth in the previous Office Action paper number 4, paragraphs 2-4 mailed October 09, 2003.

As per claims 1-84, see the previous office action for the teaching of You and Cardoza as well as the reasons and motivation for combined.

Applicant asserts that You in combining with Cardoza failed to teach or suggest the following:

- A. monitoring at least a portion of the accessed data without disturbing the operation of the target construct and debugging the target construct using the monitored portion of the accessed data;
- B. (means), (operating system), maintaining an isolated debugging environment for each of the plurality of running services;
- C. (debug core configured), means for selecting a target construct for debugging from the plurality of running services.

Examiner respectfully transverses Applicant's argument as follows:

A. First, Examiner again would like to bring Applicant attention to You's interactive debugging system and method in supporting the dynamic computer environment [col. 1, lines 18-30]. You explicitly teaches capability of **debugging services used for debugging can be executed in microprocessor, register sizes, processor register, memory addresses, operating system, hardware debugging support, operating system debugging support, software, multitude of parameters, etc...** [col. 9, lines 16-26]. In addition, Cardoza demonstrates the apparatus and method for testing and debugging in a computer network [abstract, col. 1,

Art Unit: 2114

lines 5-10] including an isolated debugging environment for the computer resources (i.e., services) [col. 2, lines 35-41] functionality. The combination of both You and Cardoza clearly teach the Applicant's invention since they both deal with computer's debugging process within multi-services environments, such as hardware, operating system, runtime environment, target process execution, etc... [You, col. 7, lines 58-60 and col. 8, line 55-56].

Second, it is not true that the combination of both You and Cardoza failed to teach the "monitoring at least a portion of the accessed data without disturbing the operation of the target construct and debugging the target construct using the monitored portion of the accessed data". You explicitly teaches:

- MONITORING access by target process [col. 44, lines 24-26];
- MONITORING the memory usage (i.e., memory access) [col. 2, lines 52;
- inspecting the state of the program via debugging [col. 6, lines 17-30];
- inspecting and controlling the execution of the program for its uninterrupted operation [col. 6, lines 38-52].

Art Unit: 2114

- inspecting executing program in order to understand their operation (i.e., without disturbing the operation) [col. 2, lines 50-51].
- interactive debuggers providing the programmer access to the state of program while they are running (i.e., operation).

It would have been obvious to an ordinary skill in the art to realize the You's monitoring and inspecting of data or memory access during its operation and/or while its running as being the "monitoring at least a portion of the accessed data without disturbing the operation of the target construct and debugging the target construct using the monitored portion of the accessed data" as claimed by Applicant. This is because by utilizing You's approach, the target server debugger object via debugging process within the computer system can be enhanced in productivity and performance throughput.

Third, it would have been obvious to a person having ordinary skill in the art at the time of Applicant's invention to further modify the You's interactive debugging system and method in supporting the dynamic computer environment to explicitly including **the status information on portion of the**

Art Unit: 2114

target operating system code or data without disturbing the operation as taught by Cardoza's apparatus and method for testing and debugging in a computer network in supporting the interactive debugging within a computer data networking environment.

This modification would have been obvious because a person having ordinary skill in the art would have been motivated to do so to provide the connectivity among data processor, memory, input/output device and other networking computer devices with mechanism to enhance the data processing, more specifically to interactive debugging in supporting the network establishment error detection/correction for maximizing the data process performance and throughput. In addition, by utilizing this approach, first, the hardware/software debugger testing system can ensure data error detected and corrected within its information services; second, the data/error control debugging system can operate with a high reliability, availability, and flexibility environment which eventually will increase its performance, such as data throughput between internal and external devices.

Art Unit: 2114

B. First, it is not true that both You and Cardoza failed to teach the "(means), (operating system), maintaining an isolated debugging environment for each of the plurality of running services". You explicitly teaches:

- cross-debugging programs from an interactive programming environment to **target execution environments** [col. 1, lines 21-23], **runtime environments, and operating system** [col. 1, lines 25-26];
- the software/hardware exception handling policy used to allow program to stop once an exception has occurred (a breakpoint), and the target program stops [col. 86, lines 38-42];
- interrupting process used for target process [col. 86, line 53];
- breakpoint, watchpoint, exception, notification [col. 69].

In addition, you emphasized the debugging operation program includes starting, stopping, suspending, terminating, step over instructions, step into branches, step over statements, step through subroutine calls, stop at breakpoints, and stop at data watchpoints [col. 2, lines 62-67].

Therefore, it would have been obvious to an ordinary skill in the art to realize the You's software/hardware exception

Art Unit: 2114

handling policy, interrupting process, breakpoint, watchpoint, notification, etc... as being the maintaining an isolated debugging environment as claimed by Applicant. This is because You clearly demonstrated its isolated debugging environment via these policy capabilities. It is further obvious because by applying You's exception handling policy, errors or failures within the communication/computer system can be detected, isolated, and corrected in ensuring system operation correctly.

Second, Cardoza's apparatus and method for testing and debugging in a computer network [abstract, col. 1, lines 5-10] explicitly illustrated the ***isolated debugging environment for the computer resources (i.e., services) [col. 2, lines 35-41]***. Therefore, it would have been obvious to a person having ordinary skill in the art at the time of Applicant's invention to modify the You's interactive debugging system and method in supporting the dynamic computer environment to explicitly including an isolated debugging environment for the computer resources (i.e., services) as taught by Cardoza's apparatus and method for testing and debugging in a computer network in supporting the interactive debugging within a computer data networking environment.

Art Unit: 2114

This modification would have been obvious because a person having ordinary skill in the art would have been motivated to do so to provide the connectivity among data processor, memory, input/output device and other networking computer devices with mechanism to enhance the data processing, more specifically to interactive debugging in supporting the network establishment error detection/correction for maximizing the data process performance and throughput.

C. First, it is not true that both You and Cardoza failed to teach the (debug core configured), means for selecting a target construct for debugging from the plurality of running services". You's interactive debugging system and method in supporting the dynamic computer environment [col. 1, line 19] explicitly shows capabilities of cross-debugging programs from an interactive programming environment to **target execution environments** [col. 1, lines 21-23], **runtime environments, and operating system** [col. 1, lines 25-26]. You explicitly addressed target process, target program, target execution of a debugged program [col. 7, lines 50-60]. You clearly called out the "constructing of debugging object (i.e., target) within the debugging system [col. 90, lines 41-67]. Therefore, it would have been very obvious to an ordinary skill in the art to realize the You's

Art Unit: 2114

constructing of the debugging object (i.e., target) as being the means for selecting a target construct for debugging from the plurality of running services. This is because by selecting the object or target construct for debugging within You's debugging system, the services can be easily facilitated for debugging process via inspecting, verifying, testing, [col. 2, lines 50-56], and debugging in a multi-channel, multi-service environment [col. 8, lines 55-67 and col. 79, lines 20-24].

Second, it would have been obvious to a person having ordinary skill in the art at the time of Applicant's invention to implement the combination of You's interactive debugging system and method in supporting the dynamic computer environment Cardozas' apparatus and method for testing and debugging in a computer network in ensuring the services effectively debugged in a multi-channel, multi-service environment [You, col. 8, lines 55-67 and col. 79, lines 20-24]. By utilizing approach, targets are correctly detected, selected, constructed, and corrected (i.e., debugged) to enhance system performance as well as system operation performing uninterruptedly.

Art Unit: 2114

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dieu-Minh Le whose telephone number is (703) 305-9408. The examiner can normally be reached on Monday-Thursday from 6:30 AM to 4:00 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel, can be reached on (703)305-9713. The fax phone number for this Group is (703) 746-7239.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Art Unit: 2114

Any response to this final action should be mailed to:


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Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703)872-9306, (for formal communications; please mark "EXPEDITED
PROCEDURE")

Hand-delivered responses should be brought to Crystal Park II, 2121
Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).


**DIEU-MINH THAI LE
PRIMARY EXAMINER
ART UNIT 2114**

DML
4/1/04